

# **TROUBLESHOOTING**



## 4. TROUBLESHOOTING

### 4.1 SERVICE CALL CONDITIONS

#### 4.1.1 SUMMARY

There are four levels of service call conditions.

Level	Definition	Reset Procedure
A	To prevent possible damage, the machine does not operate until the service representative resets the SC code.	Activate the SP mode, and turn the main power switch off and on.
B	Turning the main power switch off and on resets the SC code if the error is caused by incorrect sensor detection.	Turn the main power switch off and on.
C	The machine operates as usual excluding the unit related to the service call.	Turn the main power switch off and on.
D	The SC history is updated. The machine operates as usual.	No SC code is displayed. Only the SC history is updated.

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#### Note

- If the problem concerns electrical circuit boards, first disconnect then reconnect the connectors before replacing the PCBs.
- If the problem concerns a motor lock, first check the mechanical load before replacing motors or sensors.

#### Important

- Do not try to use the operation panel during an automatic reboot.
- If the Remote Service System is used, the SC code is sent immediately to the Service Center

#### CAUTION

- Never turn off the main power switch when the power LED is lit or flashing. To avoid damaging the hard disk or memory, press the operation switch to switch the power off, wait for the power LED to go off, and then switch the main power switch off.

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#### 4.1.2 ENGINE SC CODE DESCRIPTIONS

No. Definition		Symptom	Possible Cause
101	B	<p>Exposure Lamp Error</p> <p>The scanner has scanned the white plate, but cannot detect the white level.</p>	<ul style="list-style-type: none"> <li>▪ Defective exposure lamp</li> <li>▪ Defective exposure lamp stabilizer</li> <li>▪ Defective exposure lamp connector</li> <li>▪ Unclean scanner mirror</li> <li>▪ Scanner mirror out of position</li> <li>▪ Defective SBU board</li> <li>▪ Defective SBU connector</li> <li>▪ Lens block out of position</li> <li>▪ Incorrect position or width of white plate scanning (☞ SP4-015)</li> </ul>
120	B	<p>Scanner home position error 1</p> <p>The scanner home position sensor does not detect the scanner leaving the home position.</p>	<ul style="list-style-type: none"> <li>▪ Defective scanner home position sensor</li> <li>▪ Defective scanner drive motor</li> <li>▪ Defective scanner home position sensor connector</li> <li>▪ Defective scanner drive motor connector</li> <li>▪ Defective BICU board</li> </ul>

No. Definition		Symptom	Possible Cause
121	B	Scanner home position error 2	
		The scanner home position sensor does not detect the scanner coming back to the home position.	<ul style="list-style-type: none"> <li>▪ Defective scanner home position sensor</li> <li>▪ Defective scanner drive motor</li> <li>▪ Defective scanner home position sensor connector</li> <li>▪ Defective scanner drive motor connector</li> <li>▪ Defective BICU board</li> </ul>
141	B	SBU black level correction error	
		<ul style="list-style-type: none"> <li>▪ The automatic SBU adjustment has failed to correct the black level three times at the pre-offset adjustment.</li> <li>▪ The automatic SBU adjustment has failed to correct the black level ten times at the PGA adjustment.</li> <li>▪ The automatic SBU adjustment has failed to correct the black level ten times at the offset adjustment.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Defective SBU board</li> </ul>

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No. Definition		Symptom	Possible Cause
142	B	SBU white/black level correction error	
		The automatic SBU adjustment has failed to correct the white level ten times at the PGA adjustment.	<ul style="list-style-type: none"> <li>▪ Defective exposure lamp</li> <li>▪ Unclean white plate</li> <li>▪ Incorrect position or width of white plate scanning (☞ SP4-015)</li> <li>▪ Defective SBU board</li> </ul>
144	B	Communication Error between BICU and SBU	
		The BICU cannot correctly establish communication with the SBU.	<ul style="list-style-type: none"> <li>▪ Loose connection of the flat cable between the BICU and the SBU</li> <li>▪ Defective flat cable between the BICU and the SBU</li> <li>▪ Defective BICU</li> <li>▪ Defective SBU</li> </ul>
145	D	Automatic SBU adjustment error	
		The white levels of the white plate and the white paper are extraordinarily different during the Scan Auto Adjustment (☞ SP4-428-001).	<ul style="list-style-type: none"> <li>▪ Defective exposure lamp</li> <li>▪ Unclean white plate</li> <li>▪ Incorrect position or width of white plate scanning (☞ SP4-015)</li> <li>▪ Defective BICU board</li> <li>▪ Defective SBU board</li> </ul>
193	B	Image transfer error	
		Scanned images are not transferred to the controller memory within one minute.	<ul style="list-style-type: none"> <li>▪ Defective BICU board</li> <li>▪ Defective controller board</li> </ul>

No. Definition		Symptom	Possible Cause
198	B	Memory address error	
		The BICU does not receive the memory address report from the controller within one minute.	<ul style="list-style-type: none"> <li>▪ Inconsistency between the BICU firmware and the controller firmware</li> <li>▪ Defective BICU</li> <li>▪ Defective controller</li> </ul>
302	B	Charge roller current leak	
		The polling module detects a current leak of the charge roller.	<ul style="list-style-type: none"> <li>▪ Defective charge roller</li> <li>▪ Defective high voltage supply board</li> <li>▪ Loose connection of the PCU</li> </ul>
320	B	Polygonal mirror motor error	
		The polygon mirror motor does not reach the operating speed within 10 seconds. Or, the polygon mirror motor remains out of the operating speed for 0.2 second after reaching the operating speed.	<ul style="list-style-type: none"> <li>▪ Defective polygon mirror motor</li> <li>▪ Loose connection between the polygonal mirror motor and the BICU</li> <li>▪ Defective cable between the BICU and the polygon mirror motor</li> <li>▪ Defective BICU</li> </ul>
321	B	No laser writing signal (F-GATE) error	
		The poling module does not detect the laser writing signal (F-GATE) asserting after the laser crosses 5 mm from the start point on the drum surface.	<ul style="list-style-type: none"> <li>▪ Defective BICU</li> <li>▪ Loose connection on the fax controller or the printer controller</li> <li>▪ Defective fax controller or printer controller</li> </ul>

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No. Definition		Symptom	Possible Cause
322	B	<p>Laser synchronization error</p> <p>The main scan synchronization detector does not detect the laser signal for 0.5 second.</p>	<ul style="list-style-type: none"> <li>▪ Toner bottle not installed</li> <li>▪ Loose connection between the LD unit and the BICU</li> <li>▪ Defective cable between the BICU and LD unit</li> <li>▪ LD unit out of position</li> <li>▪ Defective LD unit</li> <li>▪ Defective BICU</li> </ul>
390	B	<p>TD sensor error</p> <p>The BICU detects the TD sensor outputting extraordinary voltage (less than 0.2 V or more than 4.0 V) 10 times consecutively.</p>	<ul style="list-style-type: none"> <li>▪ Defective TD sensor</li> <li>▪ Loose connection of the PCU</li> </ul>
391	B	<p>Development bias leak</p> <p>The polling module detects a current leak of the development bias.</p>	<ul style="list-style-type: none"> <li>▪ Loose connection of the PCU</li> <li>▪ Defective high voltage supply board</li> </ul>
392	B	<p>Developer initialization error</p> <p>The ID sensor does not detect a correct pattern during developer initialization (☞ 2-214-001).</p>	<ul style="list-style-type: none"> <li>▪ Defective ID sensor</li> <li>▪ Insufficient developer</li> <li>▪ Defective drum operation</li> <li>▪ Defective development roller operation</li> <li>▪ Loose connection of the PCU</li> <li>▪ Insufficient voltage for the charge roller</li> </ul>

No. Definition		Symptom	Possible Cause
401	B	Transfer roller leak error (positive electrode)	
		The feedback voltage of the transfer roller is insufficient.	<ul style="list-style-type: none"> <li>▪ Defective high voltage supply board</li> <li>▪ Loose connection of the PCU</li> <li>▪ Incorrect installation of the transfer unit or the separation unit</li> <li>▪ Defective transfer roller</li> </ul>
402	B	Transfer roller leak error (negative electrode)	
		The feedback voltage of the transfer roller is insufficient.	<ul style="list-style-type: none"> <li>▪ Defective high voltage supply board</li> <li>▪ Loose connection of the PCU</li> <li>▪ Incorrect installation of the transfer unit or the separation unit</li> <li>▪ Defective transfer roller</li> </ul>
500	B	Main motor error	
		The main motor does not reach its operation speed within 0.7 second. Or, the main motor remains out of its operation speed for 0.7 second after reaching the operation speed.	<ul style="list-style-type: none"> <li>▪ Overload</li> <li>▪ Defective main motor</li> </ul>
541	A	Fusing thermistor open error	
		The fusing temperature remains lower than the specified temperature by 20 degrees Celsius.	<ul style="list-style-type: none"> <li>▪ Defective thermistor</li> <li>▪ Incorrect installation of the thermistor</li> <li>▪ Defective power supply unit</li> <li>▪ Loose connectors</li> </ul>

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No. Definition	Symptom	Possible Cause
542	Fusing temperature warm-up error  The fusing temperature rises 7 degrees or less in two seconds; and this continues 5 times consecutively. Or, the fusing temperature is not detected within 25 or 35 seconds.	<ul style="list-style-type: none"> <li>▪ Defective thermistor</li> <li>▪ Incorrect installation of the thermistor</li> <li>▪ Defective fusing lamp</li> <li>▪ Defective power supply unit</li> </ul>
543	Fusing overheat error 1  The fusing temperature detected by the thermistor is 230°C or higher for one second.	<ul style="list-style-type: none"> <li>▪ Defective thermistor</li> <li>▪ Defective power supply unit</li> </ul>
544	Fusing overheat error 2  The fusing temperature detected by the monitor circuit is 250°C or higher for one second.	<ul style="list-style-type: none"> <li>▪ Defective thermistor</li> <li>▪ Defective power supply unit</li> </ul>
545	Fusing lamp overheat error  After the fusing temperature reaches the target, the fusing lamp remains on for 12 seconds.	<ul style="list-style-type: none"> <li>▪ Defective thermistor</li> <li>▪ Incorrect installation of the thermistor</li> <li>▪ Defective power supply unit</li> </ul>
546	Unstable fusing temperature  While the fusing lamp is on, the fusing temperature varies 50°C or more within one second; and this occurs two consecutive times.	<ul style="list-style-type: none"> <li>▪ Defective thermistor</li> <li>▪ Incorrect installation of the thermistor</li> <li>▪ Defective power supply unit</li> </ul>



No.	Definition	Symptom	Possible Cause	
		Zero cross signal malfunction		
547	B	The zero cross signal is not detected within five seconds after the main power switch is turned on. Or, the zero cross signal is not detected within one second after operation begins.		<ul style="list-style-type: none"> <li>▪ Defective power supply unit</li> <li>▪ Defective BICU</li> </ul>
		Consecutive fusing jam		
559	A	The paper jam counter for the fusing unit reaches 3 times. The paper jam counter is cleared if the paper is fed correctly. This SC is activated only when SP1159-001 is set to "1" (default "0").		<ul style="list-style-type: none"> <li>▪ Paper jam in the fusing unit.</li> </ul>
		Exhaust fan motor error		
590	B	The exhaust fan motor is locked for five seconds.		<ul style="list-style-type: none"> <li>▪ Loose connection of the exhaust fan motor</li> <li>▪ Overload</li> </ul>
		CSS communication error ( <b>B284/B288</b> )		
630	D	The machine tries to communicate with one of the terminals of a relevant service center. → An error signal returns.		<ul style="list-style-type: none"> <li>▪ Communication error on the public telephone network (logged only; the machine can still operate)</li> </ul>

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No. Definition		Symptom	Possible Cause
632	C	<p>Accounting error 1 (<b>B262/B292</b>)</p> <p>An error occurs during communication with the MF accounting device.</p>	<ul style="list-style-type: none"> <li>▪ Defective accounting device</li> <li>▪ Loose connection</li> </ul>
633	C	<p>Accounting error 2 (<b>B284/B288</b>)</p> <p>An error occurs during communication with the MF accounting device.</p>	<ul style="list-style-type: none"> <li>▪ Defective accounting device</li> <li>▪ Loose connection</li> </ul>
634	C	<p>Accounting RAM error (<b>B262/B292</b>)</p> <p>An error occurs in the backup RAM for the MF accounting device.</p>	<ul style="list-style-type: none"> <li>▪ Defective accounting device</li> </ul>
635	C	<p>Accounting battery error (<b>B262/B292</b>)</p> <p>An error occurs in the battery of the MF accounting device.</p>	<ul style="list-style-type: none"> <li>▪ Defective accounting device</li> </ul>
636		SD Card Error ( <b>B284/B288</b> )	
-001	B	<p>Expanded authentication module error</p> <p>There is no expanded authentication module in the machine.</p> <p>The SD card or the file of the expanded authentication module is broken.</p> <ul style="list-style-type: none"> <li>▪ There is no DESS module in the machine.</li> </ul>	<ol style="list-style-type: none"> <li>1. Install the correct SD card or the file of the expanded authentication module.</li> <li>2. Install the DESS module.</li> </ol>



No. Definition	Symptom	Possible Cause
-002 B	Version error	
	The version of the expanded authentication module is not correct.	3. Install the correct file of the expanded authentication module.
650	Communication error of the remote service modem (RC Gate) ( <b>B284/B288</b> )	
-001 C	Authentication error	
	▪ The authentication for the RC Gate fails at a dial up connection.	1. Check and set the correct user name (SP5816-156) and password (SP5816-157).
-004 C	Incorrect modem setting	
	Dial up fails due to the incorrect modem setting.	1. Check and set the correct AT command (SP5819-160).
-005 C	Communication line error	
	The supplied voltage is not sufficient due to the defective communication line or defective connection.	1. Consult with the user's local telephone company.
-011 C	Incorrect network setting	
	Both the NIC and RC Gate are activated at the same time.	1. Disable the NIC with SP5985-1.
-012 C	Modem board error	
	The modem board does not work properly even though the setting of the modem board is installed with a dial up connection.	1. Install the modem board. 2. Check and reset the modem board setting with SP5816. 3. Replace the modem board.

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No. Definition	Symptom	Possible Cause
651	Incorrect dial up connection ( <b>B284/B288</b> )	
-001	D Program parameter error  The unexpected error occurs when the modem (RC Gate) tries to call the center with a dial up connection.	<ul style="list-style-type: none"> <li>▪ Software bug.</li> </ul>
-002	D Program execution error  Same as SC651-001.	<ul style="list-style-type: none"> <li>▪ Software bug.</li> </ul>
670	Engine startup error ( <b>B284/B288</b> )  Just after the main power is turned on or the machine is recovering from auto off mode, the engine ready signal assertion fails.  Just after the main power is turned on, the engine does not respond.	<ul style="list-style-type: none"> <li>▪ Poor connection between the BICU and controller board</li> <li>▪ Defective BICU</li> <li>▪ Defective controller board</li> </ul>
672	Controller-to-operation panel communication error at startup ( <b>B284/B288</b> )  After powering on the machine, communication between the controller and operation panel does not begin, or the communication is interrupted after a normal startup.	<ul style="list-style-type: none"> <li>▪ Controller stalled</li> <li>▪ Controller board installed incorrectly</li> <li>▪ Defective controller board</li> <li>▪ Operation panel connector loose or defective</li> <li>▪ Poor connection of DIMM and optional boards on the controller board</li> <li>▪ Check the setting of SP5875-001. If the setting is set to "1 (OFF)", change it to "0 (ON)".</li> </ul>



No. Definition	Symptom	Possible Cause
761 B	ADF gate abnormal 2  The ADF does not send the FGATE signal within 30 seconds after the ADF starts scanning.	<ul style="list-style-type: none"> <li>▪ Defective ADF connector</li> <li>▪ Defective SBU board</li> </ul>
762 B	ADF gate abnormal 3  The ADF continues to send the FGATE signal for more than 60 seconds after the ADF starts scanning.	<ul style="list-style-type: none"> <li>▪ Defective ADF connector</li> <li>▪ Defective SBU board</li> </ul>
819	Kernel stop	
[0696e] B	Process error  System completely down	<ul style="list-style-type: none"> <li>▪ Defective RAM DIMM</li> <li>▪ Defective SD card in slot 1 (lowest slot)</li> <li>▪ Defective controller</li> <li>▪ Software error</li> </ul> <ol style="list-style-type: none"> <li>1. Check and/or replace the RAM DIMM.</li> <li>2. Check and/or replace the SD card in slot 1 (lowest slot).</li> <li>3. Replace the controller.</li> </ol> <p>See <b>NOTE</b> on Page 4-1 of the SC Table.</p>

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No.	Definition	Symptom	Possible Cause
[0766d]	B	VM full error  Unexpected system memory size	<ul style="list-style-type: none"> <li>▪ Defective RAM DIMM</li> <li>▪ Defective SD card in slot 1 (lowest slot)</li> <li>▪ Defective controller</li> <li>▪ Software error</li> </ul> <ol style="list-style-type: none"> <li>1. Check and/or replace the RAM DIMM.</li> <li>2. Check and/or replace the SD card in slot 1 (lowest slot).</li> <li>3. Replace the controller.  See <b>NOTE</b> on Page 4-1 of the SC Table.</li> </ol>
[4361]	B	Cache error	
		Cache error in the CPU	<ul style="list-style-type: none"> <li>▪ Defective CPU</li> </ul> <ol style="list-style-type: none"> <li>1. Replace the controller board.</li> </ol>
[---]	B	The others	
		Error in OS	<ul style="list-style-type: none"> <li>▪ Defective memory</li> <li>▪ Defective flash memory</li> <li>▪ Defective CPU</li> </ul> <ol style="list-style-type: none"> <li>1. Replace the controller board.</li> </ol>



No. Definition	Symptom	Possible Cause
	Self-Diagnostic Error: CPU	
	[0001-0015] [000A-000D]: Detailed error code	
	B During the boot monitor program and self-diagnostic, any exception or cut-in are not supposed to happen. If these happen, it is defined as SC.	<ul style="list-style-type: none"> <li>▪ Defective CPU device</li> <li>▪ Defective boot monitor program or self-diagnostic program</li> </ul> <ol style="list-style-type: none"> <li>1. Replace the controller board.</li> <li>▪ Reinstall the system firmware.</li> </ol>
	[00FF]: Detailed error code	
	B Cache access error in the CPU	<ul style="list-style-type: none"> <li>▪ Defective CPU</li> <li>▪ Defective local bus</li> </ul> <ol style="list-style-type: none"> <li>1. Turn the main power switch off and on.</li> <li>2. Reinstall the system program.</li> <li>▪ Replace the controller board.</li> </ol>
820	[0601, 0602, 0605, 0606, 0607, 0609]: Detailed error code	
	B Exceptional command does not operate even though it is executed on purpose.	<ul style="list-style-type: none"> <li>▪ Defective CPU devices</li> </ul> <ol style="list-style-type: none"> <li>1. Replace the controller board.</li> </ol>
	[060A-060E]: Detailed error code	
	B Cut-in command does not operate when it is executed.	<ul style="list-style-type: none"> <li>▪ Defective CPU devices</li> <li>▪ Defective ASIC devices</li> </ul> <ol style="list-style-type: none"> <li>1. Replace the controller board.</li> </ol>
	[0610]: Detailed error code	
	B Timer cut-in does not operate even though it is set.	<ul style="list-style-type: none"> <li>▪ Defective CPU devices</li> </ul> <ol style="list-style-type: none"> <li>1. Replace the controller board.</li> </ol>

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No. Definition	Symptom	Possible Cause
820 Con'd	[0612]: Detailed error code	[0612]: Detailed error code
		<ul style="list-style-type: none"> <li>▪ Defective ASIC</li> <li>▪ Defective devices in which ASIC detects cut-in.</li> </ul> <p>1. Replace the controller board.</p>
	B	<p>Cut-in in ASIC occurs.</p> <ul style="list-style-type: none"> <li>▪ Defective ASIC</li> <li>▪ Defective devices in which ASIC detects cut-in.</li> </ul> <p>1. Replace the controller board.</p>
	B	<p>[06FF]: Detailed error code</p> <p>The pipeline clock frequency rate is different from the prescribed value.</p> <ul style="list-style-type: none"> <li>▪ Defective CPU devices</li> <li>▪ Mode bit data error, which is used for initializing CPU.</li> </ul> <p>1. Replace the controller board.</p>
	B	<p>[0702]: Detailed error code</p> <p>The result when the program is executed in the command cache is different from desirable value.</p> <ul style="list-style-type: none"> <li>▪ Insufficient CPU cache</li> <li>▪ Insufficient memory process speed</li> </ul> <p>1. Replace the controller board.</p> <p>2. Replace the RAM DIMM.</p>
	B	<p>[0709, 070A]: Detailed error code</p> <p>Even you write the data in the only cache of memory, the data is actually written in another area (not cache) of memory.</p> <ul style="list-style-type: none"> <li>▪ Defective CPU devices</li> <li>▪ Incorrect SPD</li> <li>▪ Boot mode setting error</li> </ul> <p>1. Replace the controller board.</p> <p>2. Replace the RAM DIMM.</p>
	B	<p>[0801, 0804, 0807, 0808, 0809, 80A]: Detailed error code</p> <p>An error occurs when checking the TLB.</p> <ul style="list-style-type: none"> <li>▪ Defective CPU devices</li> </ul> <p>1. Replace the controller board.</p>



No.	Definition	Symptom	Possible Cause
820	Con'd	[4002-4005]: Detailed error code	
		The calculation error in the CPU occurs.	<ul style="list-style-type: none"> <li>▪ Defective CPU</li> </ul> <p>1. Replace the CPU.</p>
821	Self-Diagnostic Error: ASIC ( <b>B284/B288</b> )		
[0B00]	B	ASIC error	
		The write-&-verify check error has occurred in the ASIC.	<ul style="list-style-type: none"> <li>▪ Defective controller board</li> </ul> <p>1. Replace the controller.</p>
[0B06]	B	ASIC not detected	
		The ASIC of the I/O is not detected.	<ul style="list-style-type: none"> <li>▪ ASIC (controller board defective)</li> <li>▪ Poor connection between North Bridge and PCI I/F.</li> </ul> <p>1. Replace controller board.</p>
[0B10]	C	SHM register check error	
		Failed to initialize or could not read connection bus. Data in SHM register incorrect.	<ul style="list-style-type: none"> <li>▪ Defective bus connection</li> <li>▪ Defective SHM</li> </ul> <p>1. Replace controller board.</p>
[0D05]	B	Timer error between ASIC and CPU	
		The CPU checks if the ASIC timer works properly compared with the CPU timer. If the ASIC timer does not function in the specified range, this SC code is displayed.	<ul style="list-style-type: none"> <li>▪ System firmware problem</li> <li>▪ Defective RAM-DIMM</li> <li>▪ Defective controller</li> <li>▪ Reinstall the controller system firmware.</li> </ul> <p>1. Replace the RAM-DIMM. 2. Replace the controller board.</p>

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No. Definition	Symptom		Possible Cause
823	Self-diagnostic Error: NIB ( <b>B284/B288</b> )		
[6101]	C	MAC address check sum error	
		The result of the MAC address check sum does not match the check sum stored in ROM.	<ul style="list-style-type: none"> <li>▪ Defective controller</li> <li>1. Replace the controller.</li> </ul>
[6104]	C	PHY IC error	
		The PHY IC on the controller cannot be correctly recognized.	Same as SC823-[6101]
[6105]	C	PHY IC loop-back error	
		An error occurred during the loop-back test for the PHY IC on the controller.	Same as SC823-[6101]
824	B	Self-diagnostic Error: NVRAM ( <b>B284/B288</b> )	
		The controller cannot recognize the standard NVRAM installed or detects that the NVRAM is defective.	<ul style="list-style-type: none"> <li>▪ NVRAM damaged or abnormal</li> <li>▪ Backup battery has discharged</li> <li>▪ NVRAM socket damaged</li> <li>1. Replace the NVRAM.</li> </ul>



No. Definition	Symptom	Possible Cause/Countermeasure
826	B Self-diagnostic Error: RTC/Optional NVRAM	[1501]: Clock error
		<ul style="list-style-type: none"> <li>▪ An RTC device is recognized, and the difference between the RTC device and the CPU exceeds the defined limit.</li> <li>▪ No RTC device is recognized.</li> </ul> <ul style="list-style-type: none"> <li>▪ RTC defective</li> <li>▪ NVRAM without RTC installed</li> <li>▪ Backup battery discharged</li> </ul> <ol style="list-style-type: none"> <li>1. Replace the NVRAM with another NVRAM with a RTC device.</li> </ol>
	B [15FF]: RTC not detected	The RTC device is not detected.
		<ul style="list-style-type: none"> <li>▪ NVRAM without RTC installed</li> <li>▪ Backup battery discharged</li> </ul> <ol style="list-style-type: none"> <li>1. Replace the NVRAM with another NVRAM with a RTC.</li> </ol>
827	Self-diagnostic Error: RAM ( <b>B284/B288</b> )	
[0201]	B Verification error	
		<ul style="list-style-type: none"> <li>▪ Loose connection</li> <li>▪ Defective SDRAM DIMM</li> <li>▪ Defective controller</li> </ul> <ol style="list-style-type: none"> <li>1. Replace the SDRAM DIMM.</li> <li>2. Replace the controller.</li> </ol>
[0202]	B Resident memory error	
		<ul style="list-style-type: none"> <li>▪ Defective RAM DIMM</li> <li>▪ Defective SPD ROM on RAM DIMM</li> <li>▪ Defective 12C bus</li> </ul> <ol style="list-style-type: none"> <li>1. Replace the RAM DIMM.</li> </ol>

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No. Definition	Symptom	Possible Cause/Countermeasure
828	Self-diagnostic Error: ROM ( <b>B284/B288</b> )	
[0101]	B	Boost lap code error
		The boot monitor and OS program stored in the ROM DIMM is checked. If the check sum of the program is incorrect, this SC code is displayed.
[0104]	B	ROMFS error
		All areas of the ROM DIMM are checked. If the check sum of all programs stored in the ROM DIMM is incorrect, this SC code is displayed.
829	Self-diagnostic Error: Optional RAM ( <b>B284/B288</b> )	
[0401]	C	Verification error (Slot 1)
		The data stored in the RAM in Slot 1 does not match the data when reading.
[0402]	C	Composition error (Slot 1)
		The result of checking the composition data of the RAM in Slot 1 on the controller is incorrect.



No. Definition	Symptom	Possible Cause/Countermeasure
838	B Self-diagnostic Error: Clock Generator ( <b>B284/B288</b> )  A verify error occurred when setting data was read from the clock generator via the I2C bus.	<ul style="list-style-type: none"> <li>▪ Defective clock generator</li> <li>▪ Defective I2C bus</li> <li>▪ Defective I2C port on the CPU</li> </ul> <p>1. Replace the controller board.</p>
853	C Wireless card startup error  The machine starts up. → The IEEE802 11b card connection board is recognized. → The wireless LAN card or bluetooth card is not recognized.	<ul style="list-style-type: none"> <li>▪ Loose connection between the wireless card and the connection board</li> </ul>
854	C Wireless card access error ( <b>B284/B288</b> )  The machine has been reading the data from the card. → The machine loses access to the card; the wireless LAN card or bluetooth card connection board is still recognized.	<p>Loose connection between the wireless card and the connection board</p>
855	C Wireless card error ( <b>B284/B288</b> )  Some illegal data is found in the card.	<ul style="list-style-type: none"> <li>▪ Defective wireless card</li> </ul>
856	C Wireless card connection board error ( <b>B284/B288</b> )  An error is detected in the wireless LAN card or bluetooth card connection board.	<ul style="list-style-type: none"> <li>▪ Defective wireless card connection board</li> </ul>

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No. Definition	Symptom	Possible Cause/Countermeasure
857 C	USB I/F Error ( <b>B284/B288</b> )  USB interface error is detected.	<ul style="list-style-type: none"> <li>▪ Defective controller</li> </ul> <ol style="list-style-type: none"> <li>1. Check the USB connections, and make sure that they are securely connected.</li> <li>2. Replace the controller board.</li> </ol>
866 C	SD card authentication error ( <b>B284/B288</b> )  A digital license error of an SD card application is detected.	<ul style="list-style-type: none"> <li>▪ SD card data has corrupted.</li> </ul> <ol style="list-style-type: none"> <li>1. Store correct data in the SD card.</li> </ol>
867 B	SD card error ( <b>B284/B288</b> )  An application SD card is removed from the boot slot while an application is activated.	<ul style="list-style-type: none"> <li>▪ An application SD card is ejected.</li> </ul>
868 B	SD card access error (-13 to -3: File system error, other number: Device error)  An error report is sent from the SD card reader.	<ul style="list-style-type: none"> <li>▪ SD card not inserted correctly</li> <li>▪ SD card defective</li> <li>▪ Controller board defective</li> </ul> <ol style="list-style-type: none"> <li>1. For a file system error, format the SD card on PC.</li> <li>2. For a device error, turn the main switch off and on.</li> <li>3. Remove and re-install the SD card.</li> <li>4. Replace the SD card.</li> <li>5. Replace the controller.</li> </ol>



No. Definition	Symptom	Possible Cause/Countermeasure
870 C	<p>Address book data error (<b>B284/B288</b>)</p> <p>The address book in the hard disk is accessed. → An error is detected in the address book data; address book data is not read; or data is not written into the address book.</p> <p> <b>Note</b></p> <ul style="list-style-type: none"> <li>▪ To recover from the error, do any of the following countermeasures:</li> <li>▪ Format the address book by using SP5-846-050 (all data in the address book—including the user codes and counters—is initialized).</li> </ul>	<ul style="list-style-type: none"> <li>▪ Data corruption</li> <li>▪ Defective controller software</li> </ul>
880 B	<p>File Format Converter (MLB) error</p> <p>Not Available for this Model</p>	
900 B	<p>Electronic total counter error (<b>B284/B288</b>)</p> <p>The value of the total counter is out of the normal range.</p>	<ul style="list-style-type: none"> <li>▪ Defective NVRAM</li> </ul>
920 C	<p>Printer error (<b>B284/B288</b>)</p> <p>An application error that stops the machine operation is detected.</p>	<ul style="list-style-type: none"> <li>▪ Defective software</li> <li>1. Unexpected hardware resource (e.g., memory shortage)</li> </ul>

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No. Definition	Symptom	Possible Cause/Countermeasure
921	C	Printer font error ( <b>B284/B288</b> )
		A necessary font is not found in the SD card when the printer application starts.
929	B	IMAC hardware error ( <b>B262/B292</b> )
		A memory control job is not completed within a certain period.
954	B	Printer application program error
		The printer application program does not become ready when the printer application program is necessary.
955	B	Image transfer error
		The BICU requests the controller to transfer image data; but the controller does not become ready.
964	B	Status error (laser optics housing unit)
		The optics-housing unit does not become ready within 17 seconds after a request.



No.	Definition	Symptom	Possible Cause	
		Controller-engine inconsistency		
980	B	The controller is incompatible with the engine.	<p>One of the following controllers is installed to the basic model:</p> <ul style="list-style-type: none"> <li>▪ The controller of the MFP model</li> <li>▪ The controller of the copier/facsimile model</li> <li>▪ The controller of the printer/scanner/copier model</li> </ul> <p>The controller of the optional printer/scanner is installed to one of the following models:</p> <ul style="list-style-type: none"> <li>▪ The MFP model</li> <li>▪ The copier/facsimile model</li> <li>▪ The printer/scanner/copier model</li> </ul>	
		NVRAM error		
981	B	An error occurs during engine NVRAM check.	<ul style="list-style-type: none"> <li>▪ Defective NVRAM</li> <li>▪ Loose connection between the BICU and the NVRAM</li> <li>▪ Incorrect installation of the NVRAM</li> <li>▪ Defective BICU</li> </ul>	

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No.	Definition	Symptom	Possible Cause
982	B	<p>Localization error</p> <p>The localization information in the nonvolatile ROM and in the NVRAM is different (☞ SP5-807-001).</p>	<ul style="list-style-type: none"> <li>▪ Localization setting not specified (The main power switch is turned on for the first time after the NVRAM is replaced.)</li> <li>▪ Incorrect localization setting</li> <li>▪ Defective NVRAM</li> </ul>
984	B	<p>Print image transfer error</p> <p>Print images are not transferred.</p>	<ul style="list-style-type: none"> <li>▪ Defective controller</li> <li>▪ Defective BICU</li> <li>▪ Loose connection between the controller and the BICU</li> </ul>
990	B	<p>Software performance error (B284/B288)</p> <p>The software attempted to perform an unexpected operation.</p> <p><b>NOTE:</b> When this error occurs, the file name, address, and data will be stored in NVRAM. This information can be checked by using SP7-403. See the data and the situation in which this SC occurs. Then report the data and conditions to your technical control center.</p>	<ul style="list-style-type: none"> <li>▪ Software defective</li> <li>▪ Internal parameter incorrect</li> <li>▪ Insufficient working memory</li> </ul>



No.	Definition	Symptom	Possible Cause	
		Software continuity error ( <b>B284/B288</b> )		
991	D	The software attempted to perform an unexpected operation. However, unlike SC990, the process can keep on running.	<ul style="list-style-type: none"> <li>▪ Logged only; the machine can continue to operate</li> </ul>	
		Undefined error ( <b>B284/B288</b> )		
992	B	An error not controlled by the system occurred (the error does not come under any other SC code).	<ul style="list-style-type: none"> <li>▪ Defective software program</li> </ul>	
		Application function selection error ( <b>B284/B288</b> )		
997	C	The application selected by a key press on the operation panel does not start or ends abnormally.	<ul style="list-style-type: none"> <li>▪ Software for that application is defective</li> <li>▪ An option required by the application (RAM, DIMM, board) is not installed.</li> <li>▪ Too complicated nest of the fax group address</li> </ul> <p>1. As for the fax operation problem, simplify the nest of the fax group address.</p>	

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No.	Definition	Symptom	Possible Cause
Application start error ( <b>B284/B288</b> )			
998	B	After switching the machine on, the application does not start within 60 s. (No applications start or end normally.)	<ul style="list-style-type: none"><li>▪ Software for that application is defective</li><li>▪ An option required by the application (RAM, DIMM, board) is not installed.</li></ul> <ol style="list-style-type: none"><li>1. Check the setting of SP5875-001. If the setting is set to "1 (OFF)", change it to "0 (OFF)".</li></ol>

## 4.2 ELECTRICAL COMPONENT TROUBLESHOOTING

### 4.2.1 SENSOR/SWITCH OPEN ERRORS

Sensor	Connector	Message	Remarks
Registration Sensor	CN127	Paper jam	-
	SN		
Paper End Sensor	CN129	Load paper	-
	SN		
Bypass Paper End Sensor	CN130	(None)	The machine cannot detect paper on the bypass tray.
	SN		
Paper Path Sensor	CN128	Paper jam	-
	SN		
Exit Sensor	CN128	Paper jam	-
	SN		
Image Density (ID) Sensor	CN132	(None)	Print quality may become worse.
	SN		
Toner Density (TD) Sensor	CN123	SC901	The connector is shared with the mechanical total counter.
	PCU	Reset PCU correctly	-
Scanner HP Sensor	CN126	SC120	-
	SN	SC120	-
Platen Cover Sensor	CN126	SC120	-
	SN	(None)	The copier does not warm up when you open the platen

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Sensor	Connector	Message	Remarks
			cover.
DF Guide Open Sensor	DF CN103	Paper jam	-
	SN	(None)	-
DF Original Set Sensor	DF CN103	Paper jam	-
	Sensor	(None)	Originals are not detected.
DF Registration Sensor	DF CN103	Paper jam	-
	SN		Originals are correctly transported.
Inverter Sensor	DF CN103	Paper jam	-
	SN	(None)	-
Exit Sensor	DF CN103	Paper jam	-
	SN		-
Front Door Switch	CN114	Right door open	-
	SW	Front/Right door open	The message depends on which circuit is open (white → front; blue → right).
Right Door Switch	CN114	Right door open	-
	SW	Right door open	-

CNxxx: The connector on the BICU board.

DF CNxxx: The connector on the DF connection board.

SN: The connector on the sensor.

SW: The connector on the switch.

PCU: The connector on the PCU.

## 4.2.2 BLOWN FUSE CONDITIONS

All of these fuses are on the power supply unit.

Fuse	Rating		At main switch ON
	120 V	220 – 240 V	
FU1	15A/125V	8A/250 V	No response
FU2	5A/125V	2.5A/250V	No response

## 4.2.3 BICU LED DISPLAY

Number	Function
LED2	LED2 blinks in normal operation.

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